

INTRODUCTION

In 1970, a multidisciplinary study was initiated by the Peruvian government under my direction to evaluate health conditions in a population group which had lived in a relatively stable environment for some 5,000 years. So far, American and Peruvian archeologists, anthropologists, radiologists, anatomic, oral, neuro- and clinical pathologists, chemists, immunologists, an otologist, and students from many different disciplines have been involved in the study which has been supported largely by the National Geographic Society with many individual contributions.

We are often asked the value of such studies and a simplistic answer would be, "what is the value of any study of history?"

Many unanswered questions about the relationship of man and his diseases as well as some problems on the origins of man and his migrations might be partially solved through examination of anthropological material and studies of genetic markers. What are the origins of man's diseases, many of which have been described only within the last 200 years? Does this mean they didn't exist before or have they appeared in a new form? What is the role of the environment in the appearance of a particular disease in a population group? The Americas are unique in that they are a vast land mass inhabited by a single racial group, isolated for millennia, and with a well-documented history of discovery and colonization. This area offers an opportunity for careful anthropological study of man before miscegenation and after; nowhere in the world is such a wealth of anthropological data on a single racial group available in conjunction with its food and artifacts. With colonization we can witness the exchange of disease from one part of the world to another; for example, the exchange of syphilis for tuberculosis was suggested or the possible formation of a new disease, venereal syphilis, from a nonvenereal relative. Such a study might also serve as a baseline to measure the impact of modern medicine in changing man's disease patterns.

Steps have been taken to answer some questions; for example, we now know that tuberculosis was a

disease present in native Americans as early as 700 A.D. and in the pre-Columbian Indian, it was probably much like the disease in the white American prior to antibiotics. It was also a major cause of death along with other respiratory diseases, and modern medical practice has not changed this, since respiratory disease, including tuberculosis, is still the major cause of death in Latin America. Childhood illness 5,000 years ago was less than it is today and mortality in infants and children was probably also less. Problems of dental origin have become progressively worse since man first became a farmer and although we have dentists today, it is questionable whether they have improved the oral health of the average man in rural Latin America.

Verification of the written word was made possible when we examined 22 miners from the 17th century in this project. The extensive pneumoconiosis due to silver ore and silica confirmed the statements in the Spanish chronicles that the life expectancy of a miner after he entered the pits was six months to a year. In the same period, mistreatment of the Indians under the colonial government was confirmed by a nearly five hundred fold increase in fractures.

Serological study of ABO and HL-A antigens have enabled us to trace the movements of prehistoric peoples from one valley to another, and these, combined with archeological and nonmetrical genetic markers, have enabled us to establish blood relationships among individuals in the same cemetery. The absence of a native written language has thus in part been overcome. As yet, it has been impossible for us to establish the presence or absence of soft tissue syphilis nor have we been able to discover any new diseases. We do feel there were fewer virulent agents of wound infection in prehistoric Peru, but documentation as to why this is so is poor, although theories are not lacking. We hope in time to establish good, epidemiological data to answer some of these questions as well as many more that will surely arise as our investigations proceed.

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